## ISSUE SLIP STAPLE AREA (for additional cross references)

| POSITION                  | INITIALS | ID NO. | DATE     |
|---------------------------|----------|--------|----------|
| FEE DETERMINATION         | == 70000 | 1-1    | 1/21     |
| O.I.P.E. CLASSIFIER       | 0 0000   | 19/    | 17/14    |
| FORMALITY REVIEW          | T.       | 11311  | 12/17/20 |
| RESPONSE FORMALITY REVIEW |          |        |          |

## **INDEX OF CLAIMS**

| V | Rejected                   | N | Non-elected  |
|---|----------------------------|---|--------------|
| = | Allowed                    | 1 | Interference |
| _ | (Through numeral) Canceled | Α | Appeal       |
| ÷ | Restricted                 | 0 | Objected     |

| Cla  | im       | Г            |             |                    |   | Da           | te                |          |          | _        |          | Cia      | aim      |         |              | _  |                                     | Da               | te       |              |          |          |          | 1 | Cla      | —<br>air |
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| 2  | -        |              | ~           | Ţ                  |   |              | Г                 |          | 1        | Г        | 1        |          | 1        |         | ,            | 1  |                                     | T                |          |              | Ϊ        |          |          | 1 |          |          |
| Pinal "  | Original | 3/1/23       | 5/10/12     |                    |   |              |                   |          | 1        | l        |          | -        | Original | 5/1/1/2 | 41101V       |  |                                     |                  |          |              |          |          |          |   | Final    |          |
| 差  | ξ        | 3            |             |                    |   |              |                   |          |          | l        |          | Final    | ō        | 1       | ڋٳ           |  |                                     | ł                |          |              |          |          |          |   | Ē        | 6        |
| -  | T        | -            | v           | 4                  | 1                                       | 1            | 1                 |          |          | Г        | -        | 1        | 51       | Ē       | 1            | t  | t                                   |                  | $\vdash$ |              |          |          | 1        | 1 | F        | 1        |
|  | 2        |              | Ė           | 1                  | $\top$                                  | T            | T                 | İ        |          | 1        |          | 1 -      | 52       | I       | ۱ř           | ╆  | 1                                   | t                |          |              |          | $\vdash$ |          | 1 | Г        | 1        |
| _  | 3        | Ħ            | П           | 1                  | 十一                                      |              |                   |          |          |          |          | 1        | 53       | 1       | 1-1          |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
| $\vdash$   | 4        | Ħ            | H           | 1                  | +                                       | 1            | 1                 | t        | $\vdash$ | ╁        | ╁─       | 1        | 54       | 1       | V            | <u>'—</u>                                    | t                                   | t                | $\vdash$ | -            | -        | -        | $\vdash$ | ł | ⊢        | 1        |
| Г  | 5        | $\parallel$  | Ħ           | $\top$             | T                                       |              | 1                 |          | t        | $\vdash$ | _        | 1        | 35       | ١       | Ň            |  | t                                   |                  |          | _            |          | _        | 1        |   | $\vdash$ | 11       |
| Г  | 6        | 11           | П           | T                  | T                                       | 1            | 1                 |          |          | İ        |          |          | 56       | ľ       | ۲۲           |  |                                     |                  |          | -            | Г        | -        | _        | 1 |          | 1        |
| _  | 7        | I            | П           | T                  | T                                       |              | Τ-                | 1        |          | t        | à        |          | 57       | Ħ       | H            | t  |                                     | t                |          |              |          |          |          | 1 |          | 1        |
|  | 8        | 1            | П           | T                  | T                                       | T            |                   | -        |          | T        | ľ        | 1        | 58       |         | $\sqcap$     | Т  |                                     | T                |          |              |          |          |          | 1 |          | 1        |
|  | 9        | 1            | N           | /                  |   | Τ            |                   |          |          |          | 1        | 1        | 59       | I       | П            |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
|  | 10       | Y            | ٨           |                    | Т                                       | Ī            |                   |          |          |          | 1~       |          | 60       |         | П            |  |                                     |                  |          | Г            |          | Г        |          | 1 |          | h        |
|  | 11       | 1            | V<br>A<br>F | 1                  | Т                                       |              |                   |          | Т        |          |          |          | 61       |         | П            |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
|  | 12       |              | L           |                    |   |              |                   | I        |          | _        |          |          | 62       |         | П            | 1.   |                                     |                  |          |              |          |          |          | 1 |          | 1        |
|  | 13       | $\mathbb{I}$ |             |                    |   |              | $\prod_{i=1}^{n}$ | L        | Ľ        |          |          | ] [      | 63       |         |              |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
|  | 14       |              | П           |                    |   |              |                   |          |          |          |          | ] [{     | 64       |         | IJ           |  |                                     |                  |          |              |          |          |          | ] |          | 1        |
|  | 15       |              | П           |                    |   |              |                   |          |          |          |          |          | 65       | 4       | $\prod$      |  |                                     |                  |          |              |          |          |          |   |          | 1        |
|  | 16       |              | $\prod$     |                    | $\Gamma$                                |              |                   |          |          |          |          |          | 66       | $\Box$  | $\mathbb{I}$ |  |                                     |                  |          |              |          |          |          | ] |          | 1        |
|  | 17       |              | $\prod$     | Ĺ                  | L                                       |              |                   |          |          |          |          |          | 67       | L       | $\prod$      | Γ  |                                     |                  |          |              |          |          |          |   |          | 1        |
|  | 18       | Ш            |             | L                  |   |              |                   |          |          |          |          |          | 68       |         | П            |  |                                     |                  |          | <u> </u>     |          |          |          |   | _,       | 1        |
|  | 19       |              |             |                    |   | L            |                   |          |          |          |          |          | 69       |         |              |  |                                     |                  |          |              |          |          |          |   |          | 1        |
| <  | 20       | 1            | П           |                    |   |              |                   |          |          |          |          | 1        | 70       | Į.      | П            |  |                                     |                  |          |              |          |          |          |   |          | H        |
|  | 21       | 1            | П           | T                  | T                                       |              | Т                 |          |          |          |          |          | 71       |         | 1            |  |                                     |                  |          | Г            | İ        |          |          | 1 | $\vdash$ | 1        |
|  | 22       | П            | П           |                    | Т                                       |              |                   |          |          | Π        |          |          | 72       | 8       | П            | 1  |                                     |                  |          |              |          |          |          | 1 |          | h        |
| 1  | 23       |              | N           |                    |   |              |                   |          |          |          |          |          | 73       | П       | П            | Π  |                                     | 1                |          |              |          |          |          | 1 |          | 1        |
| 6  | 24       | *            | V           | 7                  | Ī                                       | Ī            |                   |          |          |          |          |          | 74       |         | П            |  | 1                                   | T                |          |              |          |          |          |   |          | 1        |
| r  | 25       |              | П           | Т                  |   |              |                   |          |          |          |          |          | 75       |         | П            |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
|  | 26       |              |             | -                  | T                                       |              | Γ                 |          |          |          |          |          | 76       | П       | П            |  |                                     |                  |          |              |          |          |          |   |          | h        |
|  | 27       |              |             |                    |   |              |                   |          |          |          |          | ] [3     | 77       | Ь       | П            |  | Г                                   | П                |          |              |          |          |          | 1 |          | 1        |
|  | 28       |              | Γ           |                    |   |              |                   |          |          |          |          |          | 78       | $\Pi^-$ | П            |  |                                     |                  |          |              |          |          |          | 1 |          | 1        |
| L  | 29       |              |             |                    |   |              |                   |          |          |          |          |          | 79       |         |              |  |                                     |                  |          |              | Γ.       |          |          | 1 | Г        | 1        |
|  | 30       |              |             | $\mathbb{L}$       |   |              |                   |          |          |          |          |          | 80       |         | П            |  |                                     |                  |          |              |          |          |          | ] |          | 1        |
|  | 31       |              |             |                    |   |              |                   |          |          |          |          |          | 81       |         |              |  |                                     |                  |          |              |          |          |          | ] |          | 1        |
| $\Box$   | 32       |              | į           | <u>'L</u>          | L                                       |              |                   |          |          | L        | Ĺ        | 4        | 82       | Ь       | Ц            |  |                                     | L                |          |              |          |          |          |   |          | þ        |
| L  |          |              | N           | $oldsymbol{\perp}$ | 1                                       | _            |                   | L        |          | L        |          |          | 83       |         | Ц            | L  |                                     |                  |          |              |          |          |          |   |          | H        |
| L  | 34       | 11           | Ш           | 1                  |   | <u> </u>     | <u></u>           | L        |          | _        | _        |          | 84       |         | Ц            | L  | L                                   | L                | L        |              |          |          |          | 1 |          | 1        |
| بـــا  | 35       |              | Ц.          | 4_                 | $\perp$                                 | <u>L</u>     | <u> </u>          |          |          | ╙        | L        |          | 85       | ٧       | ١,           | ┖  | $\perp$                             |                  |          |              | L        | _        | L        |   |          | 1        |
| <u></u>  | 36       | #_           | Ц           | 1                  | 4                                       | _            | 1                 |          | L        | <u>_</u> |          | -        | 86       | ī       | M            | _  | $\perp$                             | _                | $\perp$  | L_           | L        | _        | _        | 1 | $\vdash$ | 1        |
| L  | 37       | #            | 1           | $\perp$            | ╀                                       | 1_           | 1                 |          | L        |          | _        |          | 87       | L.      | _            | 1  | _                                   | <u> </u>         |          | L            | L.       | <u>_</u> | L        | 1 |          | 1        |
| $\vdash$   | 38       | ш_           | 11          | ╄                  | _                                       | <del> </del> | 1_                |          | L        | <u> </u> | L.       | _        | 88       |         | _            | <u> </u>                                     | $oxed{oxed}$                        |                  |          |              |          | L        | _        | 1 | $\vdash$ | 1        |
| <u> </u>   | 39       |              | Н           | 4_                 | $\perp$                                 | ļ            | <u>_</u>          | L        | <u>_</u> | <u> </u> | _        |          | 89       | _       | <u> </u>     | ┖  | <u> </u>                            | <u> </u>         | <u> </u> | <u> </u>     |          |          |          |   | L        | þ:       |
| <u></u>  | 40       | $\parallel$  | Ц           | 1                  | $\perp$                                 | _            | ļ                 |          | L        | <u> </u> |          | Į ∟      | 90       |         | L            | L  | <u> </u>                            | _                | _        | $oxed{oxed}$ |          |          |          |   |          | h.       |
| $\perp$  | 41       | 1            | Ц           | 1                  | <u> </u>                                |              | L                 |          |          | L        |          | l L      | 91       |         |              | L  |                                     |                  | _        | L            | <u> </u> | L        | Ĺ        |   |          | 1        |
| 4  | 42       |              | Ц           | $\perp$            | 1_                                      | _            |                   | Ĺ        | L        |          |          |          | 92       | L       | L            | L  | <u>L</u>                            | Ĺ                |          |              |          |          |          |   |          | 1        |
|  | 43       | -            | Ц           | <del> </del>       | $\perp$                                 | <u> </u>     | 1                 | <u>L</u> | <u> </u> | <u>L</u> |          | 1        | 93       |         |              | L  | L                                   |                  |          |              |          | L        |          |   | 匚        | 1        |
| $\vdash$   | 44       |              | Ц           | ⇂                  | 1_                                      | <u> </u>     | 1                 |          | Ŀ        | <u> </u> | L.       | "        | 94       |         |              |  |                                     |                  |          |              |          |          |          |   | L        | 1        |
| L.   | 45       |              | 17          | 4                  | 1                                       | <u> </u>     |                   | <u> </u> | L        | L        | L        |          | 95       | L       | Ĺ            | 匚  |                                     |                  |          |              | L        |          |          |   |          | ī        |
| 4  | 46       | N/           | 14          | ┺                  | 1_                                      | 1            | <u> </u>          | L.       | <u> </u> | L        |          | _        | 96       |         | L            | $\perp$                                      | $ldsymbol{ldsymbol{ldsymbol{eta}}}$ | $ldsymbol{oxed}$ | L        |              | L.       |          |          | [ | Ĺ        | 14       |
| $ldsymbol{ld}}}}}}$ | 47       | L            | Ц           | 1                  | 1                                       | L            |                   | L        |          | _        |          |          | 97       |         | Ĺ            | L  |                                     |                  | L        |              |          |          |          |   |          | 1.       |
|  | 48       | _            | Ц           | 1                  |   | ļ.,          | 1_                | L        |          | <u> </u> | L        |          | 98       | L       | <u> </u>     | L  | <u> </u>                            | Ĺ                |          |              |          |          |          |   | 匚        | 14       |
| $\vdash$   | 49       | <b>├</b>     | Ц           | 4                  | ـــــــــــــــــــــــــــــــــــــــ | <b>L</b>     |                   | ــــ     | _        | <u> </u> | <u>_</u> | ↓        | 99       |         | _            | $oxed{oldsymbol{oldsymbol{oldsymbol{eta}}}}$ | $oxed{oxed}$                        |                  | <u> </u> | L            |          |          |          |   | _        | 14       |
| L  | 50       | _            | 7           | _                  | 1                                       |              |                   |          | l        | 1        |          | <u> </u> | 100      | 1       | ľ            | 1  |                                     |                  | 1        | l            |          |          | ı        | i | 1        | 1        |

|          | im i       | Date     |              |          |  |              |          |              |          |          |          |  |  |
|----------|------------|----------|--------------|----------|--|--------------|----------|--------------|----------|----------|----------|--|--|
| Final    |            |          |              |          |  |              |          |              |          |          |          |  |  |
| $\perp$  | 101        |          |              |          |  | <u> </u>     | <u> </u> |              | L        | _        |          |  |  |
| L        | 102        |          |              |          |  | <u> </u>     | <u> </u> |              | <u> </u> |          |          |  |  |
|          | 103        |          |              |          |  |              |          |              |          |          | _        |  |  |
|          | 104        |          |              |          |  |              |          |              |          |          |          |  |  |
|          | 105        |          |              |          |  | L            |          |              |          |          |          |  |  |
|          | 106        |          |              |          |  | L            | L        |              |          |          |          |  |  |
|          | 107        |          |              |          |  |              |          |              | _        | L        |          |  |  |
|          | 108        |          | L            | _        | _  | _            |          |              | ļ.       |          |          |  |  |
|          | 109        |          | L            |          |  |              | <u> </u> |              |          | L        | <u></u>  |  |  |
| L.       | 110        |          |              |          |  | L.           | _        | <u> </u>     | L        | _        |          |  |  |
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| $\perp$  | 121        |          | _            | <u> </u> | _  | <u> </u>     | _        | _            | _        | <u> </u> | ļ        |  |  |
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|          | 139        |          |              |          |  | Г            |          |              |          |          |          |  |  |
|          | 140        |          |              |          |  |              |          |              |          |          |          |  |  |
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|          | 142        |          | _            |          |  |              | Г        |              |          |          |          |  |  |
|          | 143        |          |              |          |  |              |          | Г            |          |          |          |  |  |
|          | 144        |          | _            |          |  |              |          |              |          |          |          |  |  |
|          | 145        |          |              |          |  |              |          | i            |          |          |          |  |  |
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|          | 147        |          |              |          |  |              |          |              |          |          |          |  |  |
|          | 148        |          |              |          |  |              |          |              |          |          |          |  |  |
|          | 149        |          | _]           |          |  |              |          |              |          |          |          |  |  |
|          | 150        |          |              |          |  | $\sqcup$     |          |              | $\perp$  | $\Box$   |          |  |  |

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